

1. A method of managing queue entries, comprising:
storing addresses in a first queue entry as a linked
list, each of the stored addresses including a cell count;
retrieving a first address from the first queue entry;

5 and

modifying the linked list of addresses of the first queue
entry based on the cell count of the first address retrieved.

2. The method of claim 1, wherein modifying comprises:
10 decrementing the cell count of the first address each
time the first address is retrieved.

3. The method of claim 2, further comprising:
determining the cell count is zero; and
15 setting a second address as the first address of the
first queue entry.

4. The method of claim 3, wherein storing addresses
further comprises:

20 setting the first address as the head address of the
first queue entry; and

linking a second address to the first address of the
first queue entry.

5. The method of claim 4, wherein linking the second address to the first address further comprises:

setting the second address as a tail address of the first queue entry.

6. The method of claim 5, further comprising:

linking a third address to the first queue entry by storing the third address in the location indicated by the tail address.

7. The method of claim 5, further comprising:

incrementing a queue count each time an address is linked to the first queue entry

8. The method of claim 4, wherein the first queue entry is stored as part of a queue array having a plurality of linked queue entries.

9. An article comprising a machine-readable medium that stores machine-executable instructions for managing a queue array, the instructions causing a machine to:

store addresses in a first queue entry as a linked list,
each of the stored addresses including a cell count;

retrieve a first address from the first queue entry; and

modify the linked list of addresses of the first queue

5 entry based on the cell count of the first address retrieved.

10. The article of claim 9, further comprising
instructions causing a machine to:

decrement the cell count of the first address each time
10 the first address is retrieved.

11. The article of claim 10, further comprising
instructions causing a machine to:

determine the cell count is zero; and

15 set a second address as the first address of the first
queue entry.

12. The article of claim 11, wherein storing further
comprises instructions causing a machine to:

20 set the first address as the head address of the first
queue entry; and

link a second address to the first address of the first
queue entry.

13. The article of claim 12, wherein linking comprises setting the second address as a tail address of the first queue entry.

5

14. The article of claim 13, further comprising instructions causing a machine to:

link a third address to the first queue entry by storing the third address in the location indicated by the tail address.

10

15. The article of claim 13, further comprising instructions causing a machine to:

increment a queue count each time an address is linked to the first queue entry

15

16. The article of claim 12, wherein the first queue entry is stored as part of a queue array having a plurality of linked queue entries.

20

17. An apparatus, comprising:

a first storage device for holding queue entries;

a second storage device for holding data packets;

a memory that stores executable instructions; and
a processor that executes the instructions to:
store addresses in a first queue entry as a linked list,
the addresses including a cell count,
5 retrieve a first address from the first queue entry, and
modify the linked list of addresses of the first queue
entry based on the cell count of the first address retrieved.

18. The apparatus of claim 17, wherein instructions to
10 modify comprise instructions to decrement the cell count each
time the first address is retrieved.

19. The apparatus of claim 18, wherein instructions to
modify comprise instructions to:

15 determine the cell count is zero; and
set a second address as the first address of the first
queue entry.

20. The apparatus of claim 19, wherein instructions to
20 store addresses comprises instructions to:
set the first address as the head address of the first
queue entry; and

link a second address to the first address of the first queue entry.

21. The apparatus of claim 20, wherein instructions to
5 link comprises instructions to:

set the second address as a tail address of the first queue entry.

22. The apparatus of claim 21, further comprising
10 instructions to:

link a third address to the first queue entry by storing the third address in the location indicated by the tail address.

23. The apparatus of claim 21, further comprising
15 instructions to:

increment a queue count each time an address is linked to the first queue entry.

24. The apparatus of claim 20, further comprising:

a storage medium, the first queue entry being stored on the storage medium as part of a queue array having a plurality of linked queue entries.

5
Gdd
A3